

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 11-2C-5
VOLUME 3 ADDENDA A**



1 NOVEMBER 2011

Flying Operations

***C-5 OPERATIONS CONFIGURATION AND
MISSION PLANNING***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AMC/A3VX

Certified by: AF/A3O-A
(Col James W. Crowhurst)

Supersedes: AFI11-2C-5V3_ADDENDA-
A, 5 February 2009

Pages: 23

This supporting instruction implements AFD 11-2, *Aircraft Rules and Procedures*. It establishes policy for the configuration of the C-5 aircraft to safely and successfully accomplish worldwide mobility missions. This instruction applies to Air Forces Reserve Command (AFRC) units and Air National Guard (ANG) units. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command.

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SUMMARY OF CHANGES

This revision adds the C-5 M variant to the consolidated equipment and configuration tables, updates Table 3.1 flare configurations. It also includes several minor equipment nomenclature and location changes and clarifies fuel efficiency load planning procedures.

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Chapter 1

POLICY

1.1. General. This instruction establishes basic configurations, standard equipment, and equipment location aboard the C-5. Included are weight and balance, standard weight and moment data for use in completing DD Form 365-4, Weight and Balance Clearance Form F-Transport/Tactical.

1.2. Airplane Coding. This instruction provides coverage for C-5A, C-5B, C-5M, and C-5A Space Canister Modified (SCM) airplanes. C-5A airplanes are designated by the letter {A} C-5B by the letter {B}, C-5M by the letter {M}, and C-5A SCM by the letter {S}. Portions of this instruction are designated by the use of these symbols to indicate applicability to C-5A, C-5B, C-5M, C-5A SCM, or C-5M SCM airplanes. Items not designated as applicable to either {A}, {B}, {M}, or {S} airplanes are applicable to all four series.

1.3. Responsibility. Air Force units performing services on the C-5 airplane, e.g. terminal services, support equipment branch, and Aircrew Flight Equipment are responsible for configuring the aircraft with the equipment listed in this instruction or as outlined in mission directives. This includes stowage or installation of the equipment according to the configurations in this instruction and applicable installation directives (i.e. Technical Orders (T.O.) 1C-5A-2-2, 1C-5M-2-2, 1C-5A-21, 1C-5M-21, 1C-5A-9 and 1C-5M-9). During preflight, aircrew personnel will ensure that required mission equipment has been provided and properly serviced, installed, or stowed.

1.4. Standard Configuration Codes. Use the letter codes in Table 1.1 when referring to C-5 configurations. The number that identifies the configuration capability will follow the letter code. Each configuration code will be indicated in the mission directive.

1.5. Deviations and Waivers. Configurations in this instruction may require deviations for specific mission requirements. Each mission directive will identify the basic configuration and any deviations. For example, a Phoenix Banner mission carrying presidential helicopters may require an additional winch. Deviations may require changes to weight and balance calculations.

1.6. Weight and Balance. To standardize equipment quantities and locations, items shown in Table 2.1. will be included in the basic weight of the aircraft and remain on the aircraft except for maintenance and inspection. Equipment in Table 2.2 will be pre-positioned for all local training and operational missions to meet standard configurations listed in Table 3.1 and will be entered in reference 5, 6, or 7 of DD Form 365-4. **EXCEPTION:** To maximize fuel savings without impacting manpower and storage area requirements, items marked with an asterisk (*) in tables 2.1 and 2.2 may be removed for local training missions. Any removed equipment must be placed back onboard the aircraft prior to departing home station for a scheduled mission.

1.7. Changes and Supplements. See AFI 11-2C-5V3, *C-5 Operations Procedures*, Chapter 1.

1.8. References. See AFI 11-2C-5V3 and the following:

Table 1.1. Standard Configuration Codes.

CONFIGURATION CODES	MISSION
C	Cargo
CP	Cargo and Passengers

Chapter 2

CONSOLIDATED EQUIPMENT TABLES

2.1. Scope. All airplanes will be configured with the equipment listed in Table 2.1. This equipment will be included in the aircraft basic weight. Items listed in Table 2.2 are added only as necessary to attain standard configurations listed in Table 3.1 and/or comply with mission directives.

2.2. Forms. AFVA 11-225, *C-5 Passenger Emergency Information Card*, informs passengers of the proper location and use of emergency equipment and exits (see AFI 11-202V3, *General Flight Rules*, for passenger briefing card requirements).

2.3. Aircraft Life Sustaining Equipment (ALSE). Configure aircraft in accordance with T.O. 1C-5A-1, Flight Manual, USAF Series, C-5A and C-5B Airplanes, and T.O. 1C-5M-1, Flight Manual, USAF Series, C-5M Airplanes. Aircraft commanders (AC) may request that additional equipment be positioned aboard aircraft to accommodate aircrew and passenger increases, as required. However, units will ensure they do not exceed their total equipment authorizations per applicable allowance standards (AS).

Table 2.1. Standard Equipment.

Item	Equipment	Quantity	Location/Remarks
1	Aldis lamp/filters	1	Copilot's side console
2	Aviation (AV) fuels identiplate	1	Holder aft of navigator station
3	Cargo winch w/clevis	1	Winch compartment RBL 48 FS 470/2020. Winch computed in aft compartment.
4	Cargo winch remote control grip assembly	1	Left side cargo compartment, FS 1215
5	Cord, interphone	1 (25-ft) 2 (50-ft) 1 (175-ft)	As required
6	Crash axe {A}{B}{M}	3	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1, or 1C-5M-1-2
	{S}	2	
7	Cryogenic vent nozzles	3	{A}{B}{M} Loose equipment stowage container left side of cargo compartment FS 1774 and {S} airplanes FS 684
8	Detent locking tee (pallet lock)	8	Container left side of cargo compartment FS 1774 {S} airplanes FS 684
9	Emergency Escape Breathing Device (EEBD)/ Protective Breathing Equipment (PBE) (see note 8) {A}{B}{M}	8	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	6	

10	Emergency exit light {A}{B}{M}	12	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	7	
11	Escape reel	24	Located according to T.O. 1C-5A-1 or 1C-5M-1
12	Escape rope {A}{B}{M}	8	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	3	
13	Escape slide {A}{B}{M}	5	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	1	
14	Fan holder {A}{B}{S}	4	Stowed as loose equipment in the cargo compartment
	Fan stop {A}{B}{S}	1	
15	Fire extinguisher {A}	15	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2 <i>NOTE:</i> Two additional 1-gallon HALON 1211 extinguishers are installed in cargo compartment, one on each side just fwd of the center wing area on airplanes not equipped with FE 1301.
	{B}{M}	17	
	{S}	10	
16	First aid kit {A}{B}{M}	22	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	7	
17	Gloves, aramid	1 pr	Stowage box in fwd bunk room
18	Ground personnel restraint kit	1	Stowage box in fwd bunk room
19	Kneeling collar	4	Loose equipment stowage container left side of cargo compartment, FS 684
20	Kneeling pad extend pin	1	Loose equipment stowage container left side of cargo compartment, FS 684
21	Ladder, rope (stowed)	1	Stowed under floor of courier compartment FS 962
22	Ladder, utility	1	Stowed as loose equipment in the cargo compartment
23	Life raft, 25-Person (see notes 7, 8) {A}{B}{M}	4	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	1	
24	Oil, engine MIL-L-7808	72-quart	Stowed as loose equipment in a suitable container in the cargo compartment
25	Oil, hydraulic MIL-H-83282	48-quart	Stowed as loose equipment in a suitable container in the cargo compartment
26	Oven {A}{B}{M}	2	One each located in the relief crew and troop compartment galleys
	{S}	1	Located in the relief crew galley
27	Oxygen bottle {A}{B}{M}	16	Located according to T.O. 1C-5A-1, 1C-5A-1-2, 1C-5M-1 or 1C-M-1-2
	{S}	12	

Item	Equipment	Quantity	Location/Remarks
28	Pallet stop	4	{A}{B}{M} Loose equipment stowage container left and right FS 1774 and {S} airplanes FS 684
29	Pin, landing gear	5	Loose equipment stowage container left side of cargo compartment FS 684
30	Pressure door upper hinge lock block assembly w/F-valve safety guard	2	{A}{B}{M} Loose equipment stowage container right side of cargo compartment FS 1774 and {S} airplanes FS 684
31	Protective covers	33	Located according to T.O. 1C-5A-1 or 1C-5M-1
32	Refrigerator {A}{B}{M}{S}	1	Located in the relief crew galley
	{A}{B}{M}	1	Located in the troop compartment galley
33	Seat, student or instructor	1	Courier compartment baggage area
34	Snatch block assembly	3	Right side of cargo compartment, FS 594 /1734 and left side FS 614
35	Strut limiter	1	Loose equipment stowage container left side of cargo compartment FS 684
36	Table, relief crew	1	Installed in relief crew compartment
37	Technical publications (See note 9)	1 set	Stowed according to T.O. 1C-5A-5-1, 1C-5A-1, 1C-5M-5-1 or 1C-5M-1
38	Tie-down equipment		
	MB-1 chains and devices (10,000-lb capacity)	75	Located according to T.O. 1C-5A-9, 1C-5A-9-1, 1C-5A-5-1, 1C-5A-5-1-1, 1C-5M-9, 1C-5M-9-1, 1C-5M-5-1 or 1C-5M-1-1
	MB-2 chains and devices (25,000-lb capacity)	75	
	CGU-1/B Straps (5,000-lb capacity)	50	
39	Wheel chocks	4	Stowed as loose equipment in the cargo compartment

Table 2.2. Required Equipment.

Item	Equipment	Quantity	Location/Remarks
1	Crew comfort items:		
	Blankets, large	12	Relief crew bunk area
	Blankets, small	8	Courier compartment baggage area
	Pillows, large w/case	6	Relief crew bunk area
	Pillows, small w/case	8	Courier compartment baggage area
	Hot cup	1	Crew galley
	Coffee pot w/hot plate	1	Crew galley
2	Water container (5-gal)	1	Relief crew baggage area
3	Passenger comfort items		
	Blankets, small {A}{B}{M}	75	Troop compartment

	Pillows, small {A}{B}{M}	75	Troop compartment
	Hot cup {A}{B}{M}	1	Troop galley
	Coffee pot {A}{B}{M} w/hot plate	1	Troop galley
		1	
	Water container (5-gal) {A}{B}{M}	2	Troop galley
	Passenger Service Kit {A}{B}{M}	1	Troop compartment
4	Emergency Passenger Oxygen System (EPOS) (see notes 2, 8)		
	{A}{B}{M}{S}	15	Relief Crew and Courier Compartment
	{A}{B}{M}	73	Troop compartment
5	Life preservers - crew and passenger:	Only required on overwater flights.	
	A-A-50652 life preserver-adult/child (commercial) (A/C)(see notes 4, 8) {A}{B}{M}{S}	20	Flight deck
	{A}{B}{M}	80	Troop compartment
	LPU-6/P (infant cot) (see note 8) {A}{B}{M}	7	Troop compartment
	Life preservers, crew LPU-10/P (see notes 5, 7, 8)	10	As Required
6	Mask, 358-series w/goggles (see notes 1, 8)		
	{A}{B}{M}{S}	11	Flight deck
	{A}{B}{M}	6	Cargo compartment
	{A}{B}{M}	4	Troop compartment
7	Mask, AWACS (MBU-12P or -5/P)(see note 8) {A}{B}{M}{S}	6	Flight deck
8	Mask, Passenger (PAX) Oxygen (see note 8)		
	{A}{B}{M}{S}	18	Flight deck
	{A}{B}{M}	83	Troop compartment
9	Restraint harness, aircrew, in-flight (PCU-17/P) w/safety lanyard (HBU-6/P)(18'6")(see note 8) {A}{B}{S}	3	Stowage box in fwd bunk room
10	Parachute, BA-22 (see note 3)	As Required	As Required
11	Vest, Survival (see note 6)	10	As Required
12	Aircrew Body Armor (ABA)	10	As Required
12	Kit, Minimum Survival	1	PDM Input Only

	(MSK)		
13	Emergency Equipment Demonstration Bag(see note 8)		
	{A}{B}{M}{S}	1	Courier Compartment
	{A}{B}{M}	1	Troop Compartment
14	Protective clothing kit (see note 8)	2	Relief crew baggage compartment and troop compartment closet <i>NOTE:</i> On {S} airplanes kits will be stowed in relief crew baggage compartment
15	C-5 Galaxy Passenger Emergency Information Card AFVA 11-225 (see note 10)	10	Stowed in seat pouch in courier compartment
	{A}{B}{M}	75	Stowed in seat pouch in troop compartment
16	Shoring Kit, Plywood:		
	12" X 12" X 1/2"	8	Stowed as loose equipment in the cargo compartment
	12" X 12" X 3/4"	8	

NOTES:

1. Part number (P/N) 358-1506 series oxygen mask with goggles attached is the preferred smoke and fume protection for aircrew personnel. Firefighters smoke masks may be used until 358-series oxygen masks and goggles are available.
2. EPOS is the preferred system for passenger smoke and fume protection. As a minimum, each aircraft will have one EPOS per passenger. Preposition additional EPOS for increased scheduled PAX loads.
3. Add parachutes as required by other configuration publications.
4. The A/C is the preferred LPU for passengers. As a minimum, each aircraft will have one LPU for each passenger.
5. The LPU-10/P LPU is required to integrate with ALSE and is designed for use by aircrew personnel. A/C LPUs are not compatible for use with parachutes and survival vests and must not be used as a substitute for this LPU.
6. Survival Vests are required when parachutes are prepositioned aboard aircraft, or any time aircrew is flying a combat mission and they are required by theater SPINS. Survival vests provide crewmembers the necessary survival items while waiting for rescue or return to duty. Quantities will match number of parachutes aboard aircraft.
7. Aircraft flying over water to Programmed Depot Maintenance (PDM) will load one 25-person life raft and five LPU-10/Ps to support crewmembers as required.
8. For all aircraft transfers, position ALSE on each aircraft IAW permanent transfer configuration. Units gaining transferred aircraft, to include PDM aircraft, will contact the losing organization's AFE section and initiate transfer of required aircraft-installed ALSE and inspection records. Gaining AFE organization will conduct an aircraft acceptance inspection and forward a copy of discrepancies, to include any equipment shortages, to their respective MAJCOM IAW T.O. 00-20-1. Do not transfer aircraft with less than the required equipment. The losing organization will make up any necessary shortages from on-hand assets to ensure transferring aircraft has required equipment installed.

9. Aircraft technical publications may consist of paper or electronic media.
10. AFVA 11-225, C-5 Galaxy Passenger Emergency Information Cards, are required for all passenger missions.

Chapter 3

CONFIGURATION AND REQUIRED EQUIPMENT WEIGHT AND BALANCE DATA

3.1. Scope. This chapter contains basic cargo compartment configuration and weight, location, and moment data for associated required equipment.

3.2. General. Deviations to the basic configurations are authorized only to meet specific mission requirements.

3.3. Legend of Configurations:

3.3.1. {A}{B}{M} CP-1. This configuration offers 36 pallet positions and seats for 73 passengers in the troop compartment. All rollers will be up in this configuration.

3.3.2. {S} C-1. This configuration offers 36 pallet positions. All rollers will be up in this configuration.

3.3.3. {A}{B}{M} CP-2. This configuration offers a clean cargo compartment floor for floor-loaded cargo and seats for 73 passengers in the troop compartment. All rollers will be down in this configuration.

3.3.4. {S} C-2. This configuration offers a clean cargo compartment floor for floor-loaded cargo. All rollers will be down in this configuration.

3.3.5. {A}{B}{M} CP-3. This configuration offers a mixed combination of palletized cargo and floor-loaded cargo in the cargo compartment and seats for 73 passengers in the troop compartment. Rollers will be positioned as the cargo dictates.

3.3.6. {S} C-3. This configuration offers a mixed combination of palletized cargo and floor-loaded cargo. Rollers will be positioned as the cargo dictates.

Table 3.1. {A}{B}{M} CP-1, CP-2, and CP-3 Standard Configuration (All Channel Missions) Quantities.

*Asterisk items are not required for local training missions.							
EQUIPMENT	STATIONS	FLT STA	TP COMP	CGO COMP	TOTAL	WEIGHT	MOM
Reference 5, DD Form 365-4 (Steward's Equipment)							
Blankets, large	620	*12	--	--	12	42	0.3
Blankets, small	in seats	*8	*75	--	83	83	1.3
Pillows, large	620	*6	--	--	6	12	0.1
Pillows, small	in seats	*8	*75	--	83	42	0.7
Hot cup	840/2075	1	*1	--	2	6	--
Coffee pot w/hot plate	840/2075	1	*1	--	2	4	--
Passenger service kit	2080	--	*1	--	1	10	0.2
Water container, 5-gal (full)	840/2080	1	*2	--	3	150	2.4

Expendable supplies	825/2080	1	*1	--	2	20	0.3
AFVA 11-225	in seats	*10	*75	--	85	5	--
				TOTAL		374	5.3
Reference 6, DD Form 365-4 (Emergency Equipment)							
Protective clothing kit	825/2080	1	1	--	2	70	1.0
Life vest LPU 6/P	2080	--	*7	--	7	28	0.6
Life vest A/C	718/1725	20	80	--	100	151	2.3
EPOS	718/1725	15	73	--	88	176	2.7
Demonstration bag	940/2080	1	1	--	2	10	0.0
				TOTAL		435	6.6
Reference 7, DD Form 365-4 (Extra Equipment)							
Shoring kit plywood	443	--	--	1	1	28	0.1
				TOTAL		28	0.1
Additional Extra Equipment (As Required by Mission Directives)							
MSCL 501 Flares MJU-10	324	--	--	--	24	60	0.2
	1669/1731	--	--	--	48	120	2.0
				TOTAL		180	2.2
MSCL 502 Flares MJU-7	324	--	--	--	60	48	0.2
Flares MJU-10	1669/1731	--	--	--	48	120	2.0
				TOTAL		168	2.2
MSCL 503 Flares MJU-53	324	--	--	--	60	48	0.2
	1669/1731	--	--	--	80	64	1.2
Flares MJU-62	1669/1731	--	--	--	40	36	0.8
				TOTAL		148	2.2
Winch (C-5), electric	470	--	--	1	1	300	1.4
Winch (C-5), hydraulic	470	--	--	1	1	329	1.5

Table 3.2. {S} C-1, C-2, and C-3 Standard Configuration (All Channel Missions) Quantities.

*Asterisk items are not required for local training missions.							
EQUIPMENT	STATIONS	FLT STA	TP COMP	CGO COMP	TOTAL	WEIGHT	MOM
Reference 5, DD Form 365-4 (Steward's Equipment)							
Blankets, large	620	*12	--	--	12	42	0.3
Blankets, small	in seats	*8	--	--	8	8	--
Pillows, large	620	*6	--	--	6	12	0.1

Pillows, small	in seats	*8	--	--	8	4	--
Hot cup	840	1	--	--	1	3	--
Coffee Pot w/hot plate	840	1	--	--	1	2	--
Passenger service kit	840	*1	--	--	1	10	--
Water container, 5-gal (full)	840	1	--	--	1	50	0.4
Expendable supplies	825	1	--	--	2	10	0.1
AFVA 11-225	in seats	*10	--	--	10	--	--
TOTAL					141	0.9	
Reference 6, DD Form 365-4 (Emergency Equipment)							
Protective clothing kit	825	1	1	--	2	70	1.0
Life vest A/C	718	20	--	--	20	30	0.1
EPOS	718	15	--	--	15	30	0.1
Demonstration bag	940	1	--	--	1	5	0.0
TOTAL					135	1.2	
Reference 7, DD Form 365-4 (Extra Equipment)							
Shoring kit plywood	443	--	--	1	1	28	0.1
TOTAL					28	0.1	
Additional Extra Equipment (As Required by Mission Directives)							
MSCL 501 Flares MJU-10	324	--	--	--	24	60	0.2
	1669/1731	--	--	--	48	120	2.0
TOTAL					180	2.2	
MSCL 502 Flares MJU-7	324	--	--	--	60	48	0.2
Flares MJU-10	1669/1731	--	--	--	48	120	2.0
TOTAL					168	2.2	
MSCL 503 Flares MJU-53	324	--	--	--	60	48	0.2
	1669/1731	--	--	--	80	64	1.2
Flares MJU-62	1669/1731	--	--	--	40	36	0.8
TOTAL					148	2.2	
Winch (C-5), Electric	470	--	--	1	1	300	1.4
Winch (C-5), Hydraulic	470	--	--	1	1	329	1.5

Chapter 4

LOAD PLANNING

4.1. Scope. This chapter contains information to assist personnel in load planning.

4.2. General. Table 4.1 contains standard weight information. The following factors must be considered during load planning:

4.2.1. The cargo load must be planned so that the center of gravity of the loaded airplane shall be within specified forward and aft limits. Consideration must also be given to offload sequence, airplane limitations, and emergency jettisoning. For fuel efficiency, plan for a zero fuel center of gravity of approximately 38 percent of MAC. NOTE: Any possible addition of passengers and baggage must be accounted for during planning to prevent the possibility of exceeding aircraft limitations. For example, if a full load of passengers and baggage could be added, initially loadplanning for a zero fuel center of gravity of 36 percent of MAC would prevent exceeding aircraft center of gravity limitations.

4.2.2. Pallets loaded in pallet positions 1, 2, 35, and 36 (forward and aft ramps) shall have a 14-inch access, which shall extend from the outboard edge of the pallet to the vertical stacking line of the cargo (T.O. 1C-5A-9, and T.O. 1C-5M-9).

4.2.3. No lateral overhang permitted for pallets loaded into the aircraft rail system. Ensure the maximum width of 104 inches of usable area of the pallet is not exceeded (T.O. 1C-5A-9 and T.O. 1C-5M-9).

4.2.4. The maximum height of cargo for pallet positions 35 and 36 (aft ramp) shall not exceed 70 inches measured on the aft side of the pallet (T.O. 1C-5A-9, and T.O. 1C-5M-9)

4.2.5. The weight limit on the forward or aft ramp is 7,500 pounds-per-pallet position (T.O. 1C-5A-9, and T.O. 1C-5M-9)

4.2.6. {S} AFT cargo door configuration prohibits left or right straight in loading of palletized cargo into the logistics rail system (T.O. 1C-5A-9-1, and T.O. 1C-5M-9-1).

4.2.7. When 20 or more passengers or troops are planned, a pallet position shall be left open to accommodate the palletized baggage.

4.2.8. Do not place cargo in a position that shall restrict the use of the flight deck or troop compartment ladders.

4.3. Planning for the Loading and Placement of Hazardous Cargo. All classes of hazardous materials listed as acceptable for air transportation may be transported on the C-5 airplane. Hazardous cargo that is considered jettisonable shall not be positioned forward of non-jettisonable cargo, i.e. vehicles, helicopters, pallet trains, etc., except when weight and location will permit jettisoning by hand. Hazardous jettisonable cargo must be readily accessible and positioned for emergency jettison.

4.4. Miscellaneous Data.

4.5. {A}{B} Personnel Limitation with One Lavatory Inoperative. The Personnel Limitation Chart (Figure 4.1.) reflects the number of passengers or troops that one troop compartment

lavatory can accommodate and must be considered when determining the number of personnel that can be airlifted with one inoperative lavatory.

Table 4.1. Standard Weight Information.

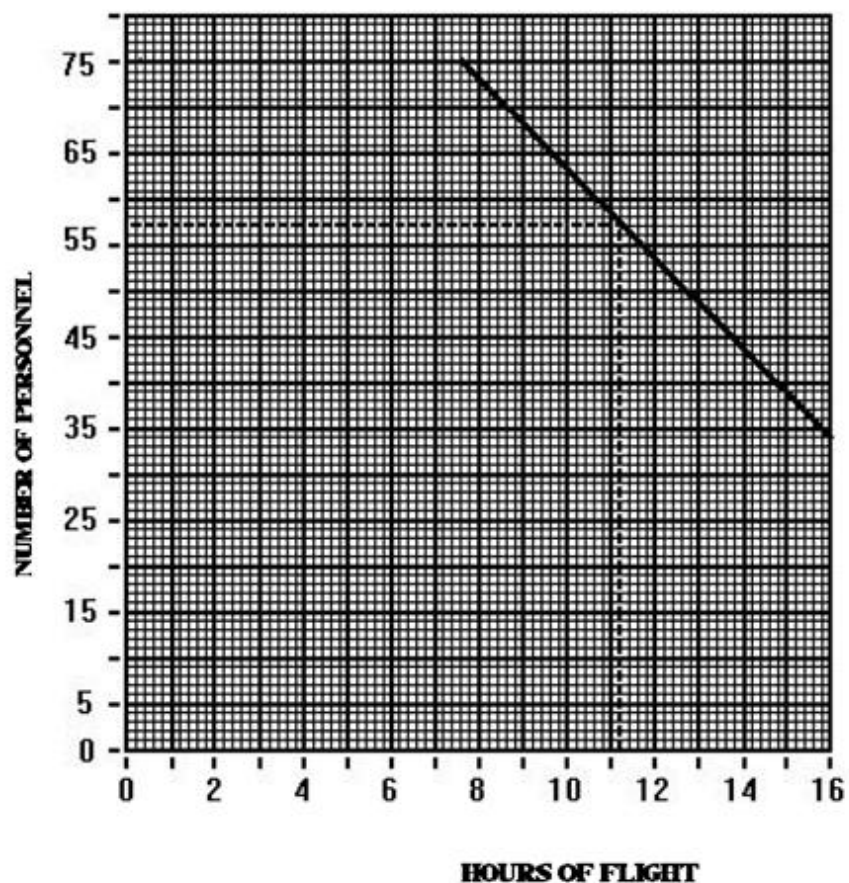
Item	Pounds
Aircrew Body Armor (ABA)	8.0
Aircrew restraint harness, in-flight	8.3
Blankets, large	3.5
Blankets, small	1
Buffet/lavatory unit (unserviced)	3,106
Buffet/lavatory unit (serviced)	4,697
Chain, MB-1	7
Chain, MB-2	20
Coffee pot	2
Crew (each)	200
Crew baggage (each)	50
Device, MB-1	3.5
Device, MB-2	6
Duffle bag	100
Emergency Passenger Oxygen System (EPOS)	2
Escape, slide/assembly	
{A}{B}{M} No. 3R and 3L exit	71.5 each
{A}{B}{M} No. 4 and 6 exit	71 each
No. 5 exit	70
Flare, MJU 7	0.8
Flare, MJU 10	2.5
Flare, MJU 53	0.8
Flare MJU-62	0.9
Fire extinguisher, portable (1 qt)	9
Fire extinguisher, portable (1 gal)	68
Hot cup	3
Life raft, 25-member, No. 2 exit	151
{A}{B}{M} No. 3R, 4, and 6 exits	136
Life vest LPU 10/P (aircrew)	4
Life vest A/C (adult/child)	1.5
Life vest LPU-6/P (infant cot)	4
Nets, pallet	65
Oil, engine, MIL-L-7808 (one case)	45
Oil, hydraulic, MIL-H-83282 (one case)	42
Oxygen bottle, portable	6
Oxygen mask (all quick-don series)	1
Oven, galley	45
Pallet (HCU-6/E)	290
Parachute, back (aircrew)	28
Passenger service kit	10

Passengers (each)	175
Passenger baggage (each)	70
Pillows, small	0.5
Pillow, large	2
Emergency Escape Breathing Device (EEBD)/Protective Breathing Equipment (PBE) w/storage case	5
Protective clothing kit	35
Refrigerator, relief crew and troop compartment	227
Ruck sack (training)	40
Ruck sack (combat)	80
Sheets	5
Shoring kit, plywood	28
Shoring	
Plywood 1/2" x 4' x 8'	43
3/4" x 4' x 8'	64
Planking 2" x 12" x 12'	72
Straps, CGU 1/B	4
Troops (each) w/web gear and weapon	210
Troops, ground w/ruck sack, web gear, and weapon (combat)	300
Troops, ground w/ruck sack, web gear and weapon (training)	250
Troops, ground w/ruck sack, duffle bag, web gear, and weapon (combat)	400
Troops, ground w/ruck sack, duffle bag, web gear, and weapon (training)	350
Vest, Aircrew Body Armor	8
Vest, Survival	10
Water container, 5-gal (full)	50
Wheel chock (20-inch)	14
Winch (heavy duty portable)	792
Winch (C-5), electric	300
Winch (C-5), hydraulic	329

Figure 4.1. C-5 Personnel Limitation Chart (when one of the two troop compartment lavatory compartments is inoperative).

The chart reflects the amount of time that may be flown depending on the total number of personnel to be transported.

NOTE: The operative lavatory compartment must be serviced at the station requiring maximum passenger airlift.



EXAMPLE: How many passengers may be airlifted on an 11.2-hour flight? **SOLUTION:** Enter the graph on the horizontal scale of 11.2 hours. Project a line vertically until it intersects the sloping line and project a line horizontally to the left. At this point is the maximum figure of 57.

NOTES:

1. Two loadmasters must be subtracted from total number determined by chart.
2. Consideration should be given to infants and small children when figuring total personnel aboard.

HERBERT J. CARLISLE, Lt General, USAF
DCS, Operations, Plans & Requirements

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-2C-5V3, C-5 Operations Procedures, 7 December 2005

AFI 11-202V3, General Flight Rules, 22 October 2010

AFMAN 33-363, Management of Records, 13 October 2011

AFPD 11-2, Aircraft Rules and Procedures, 14 January 2005

T.O. 00-20-1, Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures, 1 September 2010

T.O. 1C-5A-1, Flight Manual, 1 July 2007

T.O. 1C-5M-1, Flight Manual, 30 January 2011

T.O. 1C-5A-1-2, Partial Flight Manual, C-5A (SCM) Airplanes, 1 July 2007

T.O. 1C-5M-1-2, Partial Flight Manual, C-5M (SCM) Airplanes, 30 January 2011

T.O. 1C-5A-5-1, Basic Weight Checklist, 15 June 2007

T.O. 1C-5M-5-1, Basic Weight Checklist, 1 October 2010

T.O. 1C-5A-5-1-1, Partial Basic Weight Checklist, C-5A (SCM) Airplanes, 15 June 2007

T.O. 1C-5M-5-1-1, Partial Basic Weight Checklist, C-5M (SCM) Airplanes, 1 October 2010

T.O. 1C-5A-5-2, Loading Data Manual, 15 June 2007

T.O. 1C-5M-5-2, Loading Data Manual, 1 October 2010

T.O. 1C-5A-5-2-1, Partial Loading Data Manual, C-5A (SCM) Airplanes, 15 June 2007

T.O. 1C-5M-5-2-1, Partial Loading Data Manual, C-5M (SCM) Airplanes, 1 October 2010

T.O. 1C-5A-9, Loading Instructions Manual, 15 June 2007

T.O. 1C-5M-9, Loading Instructions Manual, 1 October 2010

T.O. 1C-5A-9-1, Partial Loading Instructions Manual, C-5A (SCM) Airplanes, 15 June 2007

T.O. 1C-5M-9-1, Partial Loading Instructions Manual, C-5M (SCM) Airplanes, 1 October 2010

T.O. 1C-5A-21, Equipment Inventory List, 15 June 2007

T.O. 1C-5M-21, Equipment Inventory List, 1 October 2010

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

DD Form 365-3, Chart C, *Basic Weight and Balance Record*

DD Form 365-4, *Weight and Balance Clearance Form-F*

AFVA 11-225, *C-5 Passenger Emergency Information Card.*

Abbreviations and Acronyms

AFE—Aircrew Flight Equipment

AFRC—Air Force Reserve Command

ALSE—Aircrew Life Sustaining Equipment

ANG—Air National Guard

ARMS—Aviation resource Management Systems

CG—Center of Gravity

EEBD—Emergency Escape Breathing Device

EPOS—Emergency Passenger Oxygen System

FS—Fuselage Station

GW—Gross Weight

IAW—In Accordance With

LPU—Life Preserver Unit

MAC—Mean Aerodynamic Chord

MSCL—Mobility Standard Countermeasures Load

PBE—Protective Breathing Equipment

PDM—Programmed Depot Maintenance

SCM—Space Canister Modified

ZFW—Zero Fuel Weight

ZFWCG—Zero Fuel Weight Center of Gravity

Attachment 2**INSTRUCTIONS DD FORM 365-4 (WEIGHT AND BALANCE CLEARANCE FORM F)**

A2.1. DD Form 365-4 Heading. Enter date, airplane type, departure station, home station of airplane, mission number, serial number, destination station (use station nomenclature, not symbols), and aircraft commander's rank and last name.

A2.2. Limitations. Enter the appropriate weight and center of gravity (CG) limits for the planned mission using the following criteria: The maximum gross weight (GW), zero fuel weight (ZFW), and CG limits specified in the flight manual and loading data manual shall not be exceeded.

A2.2.1. Allowable Takeoff GW. The maximum takeoff GW is 840,000 pounds. Allowable takeoff GW may be further restricted by critical field length, obstacle clearance, rate of climb, or weight bearing capacity. Verify the allowable takeoff GW with the flight engineer.

A2.2.2. Allowable Landing GW. The maximum landing weight is 840,000 pounds. When mission requirements dictate a weight above 635,850 pounds, consult T.O. 1C-5A-1 or T.O. 1C-5M-1, Section V, Sink Rate Limitations, and document the associated allowable sink speed in the remarks section.

A2.2.3. Allowable ZFW. The maximum ZFW is 665,000 pounds unless nonstandard fuel sequence procedures are used or aircraft is structurally restricted. Verify the allowable ZFW with the flight engineer.

A2.3. Reference 1. Enter basic weight and moment from certified copy of DD Form 365-3 (Chart C) in the airplane weight and balance handbook.

A2.4. Reference 2. Leave blank.

A2.5. Reference 3. Enter crew number and location. Use T.O. 1C-5A-5-2 or T.O. 1C-5M-5-2 table 2-1, or enter by compartment centroid. Use fuselage station (FS) 440 for compartment "A"; FS 730 for compartment "B"; FS 917 for compartment "C"; and FS 2031 for compartment "E".

A2.6. Reference 4. Enter crew baggage at 50 pounds each using FS 500. Additional weight should be added per crewmember when mobility bags are carried.

A2.7. Reference 5, 6 and 7 (see Chapter 3). Enter weight and moment. Also, indicate configuration used.

A2.8. Reference 8. Enter liquid nitrogen weight and moment. Use FS 1418 for liquid nitrogen moment computations.

A2.9. Reference 9. The total of references 1 through 8.

A2.10. Reference 10. Enter takeoff fuel (ramp fuel minus 3,000 pounds for taxi and takeoff roll). Fuel moments may be computed using the interpolation method or using 14 moments for each 1,000 pounds of fuel over the standard fuel figures in T.O. 1C-5A-5-2 or T.O. 1C-5M-5-2.

A2.11. Reference 11. Leave blank.

A2.12. Reference 12. The total of references 9 and 10.

A2.13. Reference 13. Distribution of Allowable Load:

A2.13.1. Enter 463L pallets with cargo by pallet position or fuselage station.

A2.13.2. Enter vehicles, rolling stock, pallet trains with oversize cargo by CG location.

A2.13.3. Enter passengers or troops in the appropriate compartments, see T.O. 1C-5A-5-2 or T.O. 1C-5M-5-2, page 2-10, or enter by compartment centroid (Use FS 1675 for compartment "E".)

A2.14. Reference 14. Enter the ZFW, zero fuel moment, and zero fuel percent of MAC. If the ZFW CG falls outside the ZFW envelope (loading data manual), the cargo load preplan must be adjusted.

A2.15. Reference 15. Subtotals; enter totals from reference 13.

A2.16. Reference 16. Enter the total of references 12 and 15.

A2.17. Reference 17. Enter the takeoff CG in percent of MAC.

A2.18. Reference 18. Enter corrections (when applicable).

A2.19. Reference 19. Enter the total of references 16 and 18. If no corrections, leave blank.

A2.20. Reference 20. Enter the corrected CG in percent of MAC. If no corrections, leave blank.

A2.21. Reference 21. Enter ZFW and moment. (Adjust if corrections are made)

A2.22. Reference 22. Leave blank except for airdrop missions.

A2.23. Reference 23. Enter estimated landing fuel weight and moment. Check computerized flight plan or use 30,000 pounds for first hour of flight and 20,000 pounds per hour for remainder of flight.

A2.24. Reference 24. Enter the total of references 21 and 23. This weight should not exceed the allowable landing GW shown in the limitations block.

A2.25. Reference 25. Enter the estimated landing CG in percent of MAC.

A2.26. Remarks Block. Enter nonstandard fuel sequence information, if applicable, the maneuver load limit (if less than 2.5g), and any aircraft structural weight restrictions.

A2.26.1. Nonstandard fuel sequencing will be used when maintenance problems preclude the use of certain fuel tanks. Nonstandard fuel procedures are essentially the same as standard fuel sequencing with the following exceptions:

A2.26.1.1. The flight engineer will inform or provide the loadmaster of the conditions requiring this configuration and the fuel weight distribution of individual tanks.

A2.26.1.2. Fuel weight moments will be computed using the standard sequence fuel moment tables in T.O. 1C-5A-5-2, T.O. 1C-5A-5-2-1, T.O. 1C-5M-5-2, and T.O. 1C-5M-5-2-1.

A2.26.1.3. Special zero fuel weight center of gravity (ZFWCG) restrictions are required when using nonstandard fuel sequencing. Enter ZFWCG limitation in the limitation block. (See T.O. 1C-5A-1 or T.O. 1C-5M-1, figure 5-7.).

A2.26.1.4. Weight limitation restriction. Depending on which tanks are empty, the takeoff and fuel allowable gross weight limitations will be restricted. The landing limitation will remain at 769,000 pounds. Comply with T.O. 1C-5A-1 or T.O. 1C-5M-1, section V, Nonstandard Fuel Sequence Procedures.

A2.26.1.5. Use the remarks block to record the fuel breakdown of symmetrical tanks, weight and moments, i.e., 1 and 4 main tanks 47,000 pounds @ 758 moments. **NOTE:** When calculating moments for fuel, use 14 moments for each 1,000 pounds of fuel over the standard fuel figures contained in T.O. 1C-5A-5-2 or T.O. 1C-5M-5-2.

A2.26.2. Maneuver load limitations apply.

A2.26.2.1. When ZFW does not exceed 590,000 pounds and takeoff GW does not exceed 769,000 pounds, no entry required.

A2.26.2.2. When ZFW is between 590,000 and 635,000 pounds or takeoff GW is greater than 769,000 pounds, enter "Maneuver load limit 2.25g."

A2.26.2.3. When ZFW is between 635,000 and 665,000 pounds, enter "maneuver load limit 2.0g."

A2.27. Load Adjuster Number Block. Leave blank.

A2.28. Signature Bloc